

Did the Portapak Cause Video Art? Notes on the Formation of a New Medium

While surveying the history of video art, I was struck by an apparent contradiction in the relation of technological tools to aesthetic expression. Particularly in the medium's formative years (1965-c.1977) I noticed a sort of anomaly between artists' statements and their stylistics: those artists who were most deeply involved in new technology were producing works most rooted in familiar aesthetics, while many artists whose relation to the new technology was essentially functional were producing works which were, in art world terms, the most aesthetically "advanced." Moreover, like most artists of the period, those of the former category were engaged in a discourse firmly embedded in the notion of the avant garde, but in their particular case, the avantness of the garde was often linked to technological issues, in that the legitimacy of the art work issued in various ways, simple and complex, from the newness of the medium, its apparatus and implications. To choose two of many possible examples, Woody and Steina Vasulka's experiments in the linkage of electronic sound and image are philosophically and stylistically linked to certain Constructivist currents, while Vito Acconci's work can be considered an extension of his contemporaneous performance, super-8 film and installation works. Compare the following statements, first by Woody Vasulka and then by Acconci:

Our context was not really artistic when we started to work with video. It was very far from what I would recognize as art. . . . I was educated in film at a film school. I was exposed to all the narrative structures of film, but they weren't real to me and I couldn't understand what independent film was. I was totally locked into this inability to cope with the medium I was trained in. So for me, video represented being able to disregard all that and find new material which had no esthetic content or context. When I first saw video feedback, I knew I had seen the cave fire. It had nothing to do with anything, just a perpetuation of some kind of energy.

Video as an idea, as a working method, rather than a specific medium, a particular piece-- something to keep in the back of my mind while I'm doing something else. (It can bring me up front, pull me back onto the surface, keep me from slipping away into abstraction.) . . . Video monitor as one point in a face to face relationship: on-screen, I face the viewer, off-screen. (Since the image is poorly defined, we're forced to depend on sound more than sight: "intimate distance.")

Video functioned differently for each of these artists. For Vasulka, the medium offered a means of escape, the possibility of stepping outside tradition to explore an elemental material unencumbered by received aesthetics. For Acconci, video was an extension of his "working method," a means of extending the confrontational dynamics of his contemporaneous performance work. But if video offered freedom from prevailing aesthetics, why is it that Vasulka's production at the time was in fact, if not in intention, firmly grounded in a fully formed aesthetic tradition? And as the years passed and Vasulka extended his investigations to digital imaging, where greater methodological rigor was possible, he moved even closer to the machine aesthetic of post-war constructivism, as is evident in his still image matrices *Didactic Video* (1975) and *The Syntax of Binary Images* (1978). This is not about the relative merits of Vasulka and Acconci, or of one aesthetic over another. Rather, this apparent inconsistency of intention and production is an important indicator of the complexity of the relationship between technology and aesthetics, and of the dynamics by which video, and by extension all

technologically-based media, establish their aesthetic foundations. Early video, as one significant example, provides a fundamental case study of those dynamics.

Emergence

Video and the portapak appeared simultaneously. With the 1968 introduction of this first camera-recorder combination priced at a level accessible to individuals and small institutions, video simply exploded on the scene.³ From the first moment it seemed that everyone was doing everything possible with it. Some saw themselves as artists, others as anti-artists, others as altogether outside art. Many were ambivalent, others were simply confused. While early video might be categorized, it can't be generalized: many of the early makers were attracted more to video's implications for alternate life styles, or political activism, or ethical philosophy, or ecology than to art. And as such, video provided the nexus for the realization of a panoply of concerns, both internal and external to the medium. Whereas previous new media had emerged gradually with one or two styles or aesthetic approaches, the most distinctive aspect of video's formation was the immediate and simultaneous emergence of multiple genres: activist, documentary, synthesized and image-processed, abstract or abstractive, performance, conceptual, ecological, diaristic, agit-prop, dance, music, bio-feedback and other forms made their appearance in the years 1968-1972. Moreover, there was a high degree of cohesiveness: all these approaches were video (experimental, independent, underground, guerrilla, artists', as they were variously christened), none were excluded from the field and many artists worked in multiple forms. There was an atmosphere of mutual support and a sense of a shared and privileged destiny investing video with powerful aspirations to be what no other medium had been, nor had been asked to be: at one and the same time a medium through which to view the world, a means to test the limits of the world, a political tool, a communications tool, and a responsive art medium. Significantly, the one form not in evidence during those years is that most native to cinema and television: narrative fiction. The emergence of that genre around 1977 would mark the end of video's first developmental stage.

The standard historical account ascribes video's emergence to the arrival of the portapak. If taken at face value, this would present an unusual state of affairs. In no previous case did the mere appearance of a technical substructure immediately result in the emergence of an art form. Of the five major technological art media (photography, cinema, electronic music, video and computer graphics/digital arts), almost without exception, the new medium passed through a period in which commercial issues were primary. Film lay largely dormant as an independent medium for decades after the invention of 16mm film, while the rationalization of photographic aesthetics began only after about ten years of intense discussion of photography's utilitarian and commercial possibilities. Yet the number of American video practitioners went from a score or so in 1965-1968 to hundreds or thousands only a few years later. The transition from nonexistence to inclusion in the 1973 Whitney Biennial took eight years and video had only to wait a few more months for a major museum conference ("Open Circuits" at the Museum of Modern Art in January 1974). By then video had become an established part of the curriculum in more than a few university art departments and art schools, and it was possible to earn a diploma in this medium in which the professors themselves had worked for only two or three years. Even allowing for the artfied nature of our society, something else was going on here. Video was

obviously fulfilling integral cultural needs; otherwise its development would have been more tentative and gradual.

These cultural dynamics will be discussed later on. But first, there is a peculiarity to the advent of video, a sort of Holmesian dog that didn't bark. What is surprising and difficult to account for is why there was virtually no artists' video before the portapak. Given the omni-presence of television in American society, the general interest in issues of art and technology and the readiness of the 60s art world to incorporate elements of popular culture, one would think that artists, tenacious creatures that they are, would have somehow managed to gain access to broadcast facilities, or used relatively cheap surveillance equipment, or worked with the medium in ways that did not require recording and playback (such as modifying circuits in television sets, as Nam June Paik was doing). But the fact remains that before the general availability of the portapak, the use of video by artists was extraordinarily limited. In the standard histories, only two names are cited, Paik and Wolf Vostell for their gallery installations of modified and unmodified TV sets, mostly in Germany (Vostell's work began in the late 1950s, Paik's in 1963). Certainly there were others, but the number of art works involving video or television prior to 1968 is astonishingly small.

This is a singular circumstance. If there appears to be a causal link between the first appearance of the portapak and the advent of video art, it might be useful to compare the emergence of computer graphics. Although computers were large, complicated, uninviting and exceedingly expensive before the mid-1970s--not unlike broadcast television equipment--computer art dates nearly from their origin. Time on commercial and research computers was in such short supply as to be rationed, but even with their inaccessibility and user-unfriendliness, artists did manage to get their hands on them. In many cases the computer scientists themselves made their own art works. While the personal computer running off-the-shelf software--the digital equivalent of the portapak--has altered and accelerated the growth of computer art, it is far from being the prime mover. Even with strong technological and economic parallels with video, computer art didn't burst on the scene; it followed a more gradual trajectory.

Did the portapak "cause" video art? A fundamental question. In the strict sense obviously not, because raw technological determinism rarely accounts for social phenomena. But as noted above, in most histories the advent of video is attributed either to the portapak alone or to the fortuitous convergence of the portapak with the singular political and counter-cultural landscape of the late 1960s. Yet even this expanded technological determinism masks important relationships.

I believe that video art emerged when it did not because of the invention of the portapak but because video held out the possibility of escape from a crisis of modernism, a vain attempt to keep alive the optimism and belief in progress which lie at the heart of the modernist enterprise. Video, before all other arts, took on this function because its intrinsic attributes enabled it to serve artists in a multiplicity of ways. However integral the portapak was to the subsequent development of the medium, it may well be that the simultaneous appearance of the portapak and video art was essentially coincidental. Although this coincidence makes it appear that the portapak was the source of independent video, one could hazard that a video art--albeit quite different in character--might have emerged at around the same time even in the absence of the

portapak. And conversely, it is plausible that if the portapak had been invented earlier, the device might initially have been employed mostly in non-artistic utilizations, so that video art might not have emerged until the time when it finally did. It is obviously not possible to know this with any certainty; we can only analyze the stream of history, not isolate its variables. But there is much in the long and fundamental association between modernism and technological media to support this view. As we shall see, it may be that debates surrounding photography, the first technological art medium, provided the stimulus for the appearance of aesthetic modernism. These relationships are complex, but if we view the emergence of video substantially as an aesthetic issue rather than a technological one, we gain great explanatory power over video's early manifestations.

Video and Modernism

Modernism, being a tendency rather than a codifiable movement or style, defies simple definition. Under its broad umbrella can be found a range of sometimes contradictory attitudes, aesthetic approaches, political and ethical stances. Modernism is inherently linked to a belief in progress, in society as in the arts, where it is manifested in the essential dynamic of the avant garde: the cycles in which new conventions overturn established ones only to become established and overturned themselves. This succession is seen as having dual aspects: it is both progressive, in that one aesthetic stance is seen as an "advance" over the preceding, and cyclical, in that an aesthetic or stylistic ethos which has been used up is superseded by its nominal opposite. To choose a musical example, such composers as Pierre Boulez, Karlheinz Stockhausen and Yannis Xenakis saw late Romanticism as having exhausted itself, stimulating them to arrive at compositional methods founded upon analytic techniques diametrically opposed to the large expressive structures of Mahler, Bruckner and their confrères. This overturning of established convention is at the center of the avant-garde ethic and of the modernism for which it serves as the prime mover of cultural progress.

Perhaps the best-known and most influential modernist formulation is that of Clement Greenberg. For Greenberg, formalism was the direct issue of the avant garde, so that just as modernism and the avant garde are inseparable, so inevitably does the avant-garde stance dictate a concentration on formal experiment:

As the first and most important item upon its agenda, the avant garde saw the necessity of an escape from ideas, which were infecting the arts with the ideological struggles of society. Ideas came to mean subject matter in general. (Subject matter as distinguished from content: in the sense that every work of art must have content, but that subject matter is something the artist does or does not have in mind when he is actually at work.) This meant a new and greater emphasis upon form, and it also involved the assertion of the arts as independent vocations, disciplines and crafts, absolutely autonomous, and entitled to respect for their own sakes, and not merely as vessels of communication.

In his view, the elimination of all that was extrinsic to a medium or shared with other media would enable each to achieve a purity which would become its qualitative standard. By so doing, the medium might stave off decadence through a constant distillation of its purposes and methods. As he puts it in an oft-quoted passage,

The essence of modernism lies, as I see it, in the use of the characteristic methods of a discipline to criticize the discipline itself, not in order to subvert it, but in order to entrench it more firmly in its area of competence.

Each art, it turned out, had to perform this demonstration on its own account. What had to be exhibited was not only that which was unique and irreducible in art in general, but also, that which was unique and irreducible in each particular art. Each art had to determine, through its own operation and works, the effects exclusive to itself. By doing so it would, to be sure, narrow its area of competence, but at the same time it would make its possession of the area all the more certain.¹

Greenberg believed that naturalistic painting was a dissembling of the medium which concealed its inherent elements in illusion. In contrast, "modern art" called attention to its own essence through flatness, the shape of the support, the properties of pigment, etc. It is important to note that Greenberg's highly reductionist position does not specifically necessitate abstraction, but it does necessitate breaking the conventional barriers that place recognizable objects in a recognizable space. To do otherwise is to recall another art and to render the work compromised, "impure."

While Greenberg does not discuss technologically-based media and makes only passing references to the relations between photography and painting, his notion of finding the essence of the medium in its materiality seems to derive in part from ideas current in the 1920s. Laszlo Moholy-Nagy, an important Constructivist and Bauhaus faculty member, noted,

. . . no material, no field of activity, can be judged from the special character of other materials, other fields, and that painting or any optical creation [i.e. photography and cinema] has special laws and missions independently of all others.

And,

. . . a work of art should be created solely out of means proper to itself and forces proper to itself.

Moholy-Nagy does make the connection to photography and film, holding that the articulate elements of technological media derive directly and specifically from their underlying technology. He observes that "Film practice has so far been largely restricted to reproducing dramatic action without, however, fully utilising the potentialities of the camera in an imaginatively creative manner."¹ Thus, the potentialities of cinema are to be found in the creative possibilities inherent in the apparatus and not, as was film industry practice, of essentially literary issues.

This view is highly reductive, and one not at all consonant with mid-19th century sensibilities. Thus, it comes as a surprise to find the emergence of similar sentiments in controversies surrounding the young art of photography in France in the 1850s, about a decade after the invention of the Daguerreotype and only a few years after the diffusion of negative/positive processes. Essentially, there were three parties to this controversy: 1) those who entirely excluded photography from the realm of the fine arts, 2) those who admitted photography to the

fine arts but only to the degree that it might reproduce prevailing aesthetic models, and 3) those who sought aesthetic autonomy for the new medium. What is particularly significant is that in support of their positions in this raging debate, each party engaged in close material analyses of the new medium. It is as if the attempt to critique a new technological medium, whatever one's inclination, of necessity forces a proto-modernist framework.

A. Bonnardot, a commentator of the period, excluded photography from the realm of art a priori because its material and technical structure were, in his view, inherently incompatible with artistic achievement. As he put it,

Reality mechanically fixed necessarily carries the stamp of its origin: it lacks soul, it presents to the spirit only an idea, it exists only in the present. Art knows how to join the present with the sentiment of the past and of the future . . .

Art can go beyond the effects of physical nature and, without violating its laws, accumulate in a landscape the effect of light, shadows and harmony, that the real world offers only successively, or even never possesses, to our material senses. In a word, it creates, that is to say that from the uniting of a thousand beauties, which are only alternatives in reality, it produces from them a unity surpassing nature's work. It is this beauty, the distillation of all the scattered beauties in the real world, which in literature, in music and in painting one calls poetry.

For Bonnardot, the artist's task is to combine multiple aspects of nature to create a unified beauty. Photography, seeing through one lens at one time and in one place is, by virtue of its construction, incapable of artistic creation.

Those who held that photography could fulfill the aesthetic requirements of the fine arts, but only by adopting beaux-arts aesthetics, agreed implicitly with Bonnardot's first premise: that art cannot be founded in a direct optical transfer from nature. However, they differed from him in that they recognized that certain photographic practices could create images which mimic those of such old masters as Van Dyck, Rubens and Titian. In so doing, they applied to photography the "theory of sacrifices" in which the artist sacrifices fidelity to nature for the sake of interpretive truth. The artist's role, then, was to eliminate all inessentials--details and other extraneous elements--in order to better grasp the essence of the subject. Significantly, proponents of this position condemned the Daguerreotype for its "indiscreet prolixity of detail" in favor of the softer and less precise Calotype.¹ It should be noted that in seeking to rationalize photographic aesthetics with those established for painting, they were forced into an engagement with the precise visual and working properties of specific technical procedures. Although they concluded that photography was not *sui generis*, their analysis starts from the premise that photography's inherent properties defined the new medium's appropriate utilizations, even to the extent of excluding as artistically invalid specific practices of which it might be capable.

But for those who located artistic validity in the specificity of photography, we see the beginnings of a mediatic determinism. For them, the nature of photography is to be found in its unique material conditions. The following is by Jules-Claude Ziegler, from his survey of the photographic works displayed at the Paris Exposition Universelle of 1855:

Each of the arts has a domain which is specific to it, a sort of exclusive character which is its essence. Thus, painting on glass has for its special object the most vivid explosions of brilliant colors which it might accomplish, whatever the thought or the subject. It is most of all about the power and the triumph of transparent color revealed by the sun's rays . . . It is so with each of the other arts: whatever they might have in common, each has a character which is exclusively reserved to it.

Applying this principle to photography, we shall say with conviction and even certitude that its essential character is extreme sharpness. The field of photography begins or ends that of the pencil and the engraver's needle. From this one can draw a rule regarding the dimension of prints, which should not exceed certain limits, under pain of entering into a domain which is not its own and where it might encounter the rival hand of the masters. A photographer who, under the pretext of approaching the works of another art, neglects sharpness is no longer in the true: he strays from his element and wanders.

Significantly, Zi  gler takes the position diametric to that of the adherents of the theory of sacrifices. For him, the artistic justification is to be found precisely in its fineness of detail, not in its capability for soft and diffuse effects.

Among the controversies of the period was one surrounding the propriety of retouching photographic images. Eug  ne Durieu, President of the Soci  t   fran  aise de photographie during the mid-1850s, argued forcefully that retouching was fundamentally inappropriate to the photographic art, and in so doing, arrived at a sort of Greenbergian formalism avant la lettre:

. . . the procedures [of each art form] differentiate them and each has its determinant conditions: these are the conditions which constitute and individualize each branch of art. . . .

Color an engraving; however capable might be the coloring, you won't have a painting, and you will no longer have a gravure: you will have something without a name . . .

. . . each art must find its true power in itself. That is to say, in the skillful use of the procedures which are unique to it. And to engage our present subject, to use the brush in the aid of photography under the pretext of so introducing artistry, that is precisely to exclude the photographic art.

Thus, Durieu, Zi  gler and their colleagues, in asserting the superiority of "pure" (my word, not theirs) exercises of photography, in refuting the appropriateness of extra-photographic procedures as a priori foreign to the proper exercise of the photographic art, and in indicating that the photographic art by virtue of its material structure is distinct from all other art forms, formulated a theory of the medium which was to be codified by Greenberg as applied to painting and other "high art" almost a century later. In full reaction against what he saw as a gathering decadence in painting, Greenberg located his modernism in a quest for a near-spiritual purity. However, the early photographic theorists were not engaging in any such quest. Rather, they sought to circumscribe an unconventionalized medium by determining the elements essential to its practice, grounding their arguments in photography's material and operational structure. This propensity for reduction, whether Greenbergian in nature or not, is symptomatic of new media.

In early photography the tendency was not well developed--the theory was more reductive than the practice--as prevailing aesthetic models and the intense commercialization of the invention tended to counteract reductiveness. In later media however, this analytical reductiveness took varied forms and had wide impact on the aesthetic expression of these media in their formative years. We will see how the arrival of video at exactly the end of the modernist period served to resurrect the modernist quest, however temporarily. What is particularly interesting, although outside the scope of this article, is that the same dynamic seems to be operative in certain utilizations of computer graphics, even though its rise occurs well after modernism's end. It is almost as if there is a "modernist process" re-enacted with each new medium, as many of those artists most concerned with the rationalization of the new technology are drawn into aesthetic concerns replicating those of earlier media.

Many early video artists, having previously worked in other media, expressed strong discontent with prevailing art world models while looking to video for a redefinition or rejuvenation of aesthetic parameters. For Tom DeWitt, originally a filmmaker, modernist reduction had led art to the bivalent state of reductionism and non-intentionality. For him, video represented a means of re-establishing intentionality and compositional mastery in the visual arts.

. . . I realize that dada has given way to data, that video art is on the other side of the keyhole cut in the wall of art history by the black canvas and the exploding sculpture.

After discussing problems of controlling the video image, he asks,

What are meaningful time-related spatial changes? Can light be codified in some equivalent to musical theory? Are there primal forms from which a vocabulary of shape can be built? As fundamental as these questions are, they must be answered before video art can really develop. . . . While there are many interesting things one can do playing with the guts of TV sets and computers, the basic aesthetic questions of space must be solved before universal compositional machines can be built.

For DeWitt, the narrowing of aesthetic possibilities ("the keyhole") could only be overcome by resorting to a new medium which would enable one to construct afresh an expressive language for video, and by extension, for all time-based visual arts. Video was to be the methodological repository for this wide-ranging quest to arrive at a "universal compositional machine."

If for DeWitt the rationalization of a new medium must precede its implementation, others looked to video's technological structure to provide the foundation for this new expressive language. Steve Beck, a video artist and engineer who designed several important video synthesizers for his own use and for the National Center for Experiments in Television in San Francisco, described an evolution which places him solidly in the modernist tradition. Significantly, the process of designing his video synthesizers took him down analytic paths similar to those taken by the Bauhaus even before he was aware of the correspondences. He began by working with the simplest electronic waveforms (sine, triangle and square waves) which when translated to images, create elemental forms.

I had experiences of seeing the visual field break down into elements, and when I was doing the design for the synthesizer, I structured these elements: color, shape, texture, and motion. And I further took the element of shape into sub-categories of point, line, plane, and illusion of space. I later read Kandinsky's work [On the Spiritual in Art] and I found it was really close: I had no foreknowledge of his work when I arrived at the same, or a very similar scheme. I was astounded. I was reading his notes for his class at the Bauhaus and there it was, the very same analysis.

When visual literacy has advanced sufficiently, many will no longer consider the synthesized image as a by-product of television technology, but as a visual reality of its own, distinct from the terms of the representational, photographic image, an image which is more glyphic than literal.

The appearance of electronic imaging instruments such as the video synthesizer and image processors ushers in a new language of the screen. Non-representational and departing from the conventional television image, these methods will stimulate the awareness of new images in the culture.

Taking a position not unlike that of the Futurists and post-war Constructivists, Beck saw new machines as giving birth to new expressive modes, which are themselves constitutive of cultural progress ("When visual literacy has advanced sufficiently . . .") He posited a language of the screen, analogous to that of musical composition, on which he based both his compositions and synthesizer designs. This language, formally abstract, was to transcend the denotative and representational to become "a visual reality of its own."

Nam June Paik's initial involvement was in music, and one can read much of his video work as an attempt to transfer certain musical concepts and techniques to a visual medium. Paik had found himself weary with music's institutionalized avant garde, and so employed multiple strategies, including Fluxus performance and video, as a means of finding new possibilities:

I am tired of renewing the form of music. -serial or aleatoric, graphic or five lines, instrumental or belcanto, screaming or action, tape or live . . . - I hope must renew the ontological form of music. In the normal concert, the sounds move, the audience sit down. In my so-called action music, the sounds, etc., move, the audience is attacked by me.

In *Videa 'n' Videology* Paik posits the simultaneous video displays of his 1963 installation at the Galerie Parnass in Wuppertal, Germany as a way out of the inherent linearity of literary and musical compositional forms. That installation consisted of thirteen TV sets, each modified in a different way. He writes,

But poor Joyce was compelled to write the parallelly advancing stories in one book with one-way direction, because of the othology [sic] of the book. The simultaneous perception of the parallel flows of 13 independent TV movements can perhaps realize this old dream of mystics, although the problem is left unresolved, whether this is possible with our normal physiognomy (we have only one heart, one breath, one focus of eye,) without some mystical training. and IF WELL

TRAINED,, he needs neither 13 TVs, nor TV; nor electronics, nor music, nor art,
the happiest suicide of art . . .

Paik had been seeking a means of escaping from the continuing stylistic evolution of his chosen medium, music, and to impose upon it a thoroughgoing alteration in its ontology. But even this was inadequate, because music, like literature, is inherently and inescapably linear. But he saw video in general, and the installation form in particular, as holding out the possibility of leaving behind discursive formal structures and operating with a certain transcendent relation to his material. This owed much to John Cage's musical program, a debt Paik frequently acknowledged.

As we saw above, Woody Vasulka was trying to find a creative path within the moving image which would circumvent filmic conventions. Unlike Beck and DeWitt, he was not so much attempting to reconstruct an expressive language as to bypass expressiveness itself, looking to video's technological substructure for a model of consciousness. "During the early years of my life, I was looking into myself for an alternate model of consciousness, and I didn't find it. Now turning more and more towards material, I'm trying to find this new model of consciousness within the material. . . ."1 Vasulka's quest is classically Greenbergian: he was looking to the base material of his medium as the foundation for a new aesthetic.

While Vasulka, DeWitt, Beck, and Paik each have decidedly different relations to artistic tradition, all invested in video this possibility of renewal. DeWitt sought to rationalize fundamental elements of video to facilitate a return to intentionality, a rigorous compositional method. Beck founded his work in modernist methodology, but located positive cultural value in the creation of heretofore unrealized imagery. For Paik, by contrast, video was a way out of modernism. Staking out a position precisely opposite to that of DeWitt and Beck, and trapped between the two polarities of modernist musical compositional practice, the serial and the aleatoric, Paik's resorting to video was an attempt to find a way out of the entire Western tradition, "the happiest suicide of art." For Vasulka also, video represented an escape from aesthetics, but a temporary one. Rejecting received and expressive conventions, he turned to video in search of a model for the construction of a new aesthetic, unlike that of any preceding medium, but firmly within the traditions of Occidental culture.

All this was happening at the precise moment when modernism had lost its essential currency, and when the post-modern, not yet knowing what to call itself, began to emerge. As Art Berman notes of the period of the late 1960s and early 1970s,

. . . now that modernism has already decorated the world, new works are not triumphs but repetitions. Modernism--once oppositional, then the official opposition--is now finally the status quo. Any legitimate avant garde must denounce modernism, just as postmodernism does; yet to be part of a denunciatory avant garde is itself the typifying feature of the modernism that is being rejected.

The early video artists' relationship to modernism is anything but uncomplicated; it would be a mistake to see it simply as a kind of holding action. Compare Vasulka's statement ("video represented being able to . . . find new material which had no esthetic content or context.") and

another by Frank Gillette ("Video was the solution because it had no tradition. It was the precise opposite of painting. It had no formal burdens at all.") with an interesting observation by Thierry de Duve,

The avant garde as tradition betrayed and betrayal, that's the paradoxical jurisprudence which forces us to recognize and conclude that the avant garde is not simply a tradition, but the pursuit of the tradition.

These videomakers, like many artists of the period, were caught in what might be characterized as the dilemma of decadent modernism. During the mid-1960s minimal art had put in its appearance, in part as a result of modernist purging. Canvases of black or white squares are not only the highest level of a medium's refinement but also, for DeWitt and others, looming dead ends. At the same time, the art world saw a rapid succession of styles and techniques including Pop, Environmental, Op, Kinetic, Neo-Dada, Fluxus, Assemblage, all operating within a perennial avant garde whose aesthetic, philosophical and commercial structures dictated that they constantly overturn paradigms, a dynamic which reduces paradigm to style and style to mere fashion. (If many of the artists' pronouncements of the period seem overblown, it may be because they were responding to a climate demanding that every development be of earthshaking significance and that every stylistic change herald a profound historical break.)

Thus, what we have in early video is a confounding of the function of the avant garde. If the avant garde has at its core not only the overturning of previous artistic practice but also the continuation of what de Duve calls "the tradition"-- the progressive linear development of Western culture--then obviously artists will turn to various strategies to work their way out of this dilemma. What we now call post-modernism was one path. Certain utilizations of video seemed to provide yet another, the means of seeming to escape from the burden of tradition while leaving unchallenged the essential underpinning of the avant garde: the notion of cultural progress. This could only be possible because of video's unprecedented historical situation. Emerging in the midst of and as a result of the exhaustion of modernism, video took on two simultaneous and contradictory functions: the new medium was called upon to aid in the transition from modernism to something else at the same time that it was called upon to be the natural vessel for the renewal of modernism. In essence, the inevitable was forestalled by the inescapable.

Video was particularly well suited to this bivalent task. It shares formal attributes with many media: it can employ movement like film, two dimensional space like painting, it might occupy three dimensions like sculpture, it can use words like writing and theater, and the moving figure like dance. Its affinity for performance art is evident. Video might culturally situate itself outside society--in the artist's studio--or within it on the streets. And of course it could locate itself within the high culture of the fine arts or the popular culture of television. As noted above, conceptual art had emerged, and video was able to give spatial/temporal/sensory realization to conceptual frameworks. (Dan Graham's installations and Bruce Nauman's gestural tapes of the period are examples.) Thus, if other media had seemed to have exhausted their conventional possibilities, then what better solution than to employ a medium which not only shares but inherently invests those possibilities with a new dynamic.

This is the central irony of early video: to the degree that early videomakers attempted to liberate themselves from tradition, many were implicitly seeking to keep tradition alive, if not always in specifically formal terms, then in terms of its moral dimension. For Beck, DeWitt, Gillette and many others, the new medium held out the promise of renewal just when the avant-garde ethic was in its decadence, rendered irrelevant by the immediate acceptance of each season's grandest gesture. But even as the cultural position was devalued, the stance remained, and artists' aspirations remained linked to this fugitive vanguard. This may be why, for all the swiftness of the institutional uptake, video was largely ignored or dismissed by the art establishment: the issues posed by the new medium often appeared naive or worn out because they seemed to have been exhausted long ago in other media. Whereas established art forms faced this dilemma head on, video, in its rear-guard holding action, enabled the relocation of avant gardism from formal to technological devices, either directly or in their extensions. I suspect this move was largely unconscious, as its roots lie in a vision of the technological as determinant of society's evolution, and therefore of the evolution of artistic production. Whatever formal attributes the work might have, this strategy often ended up in a sort of neo-democratic-futurism in which the work posited itself as being on the forefront of a historical line of enormous cultural promise. Video was going to change the world.

Technology and Aesthetic Formation

In a medium's early stages, the base technological structure assumes multiple roles in the medium's aesthetic formation, and the specific nature of these roles provides important indicators of the medium's aesthetic and cultural position. Deriving from the manner in which artists and critics project their program, in various ways simple and complex, direct and indirect, issues of technology are framed differently in new media than in established ones. These technological relations are multifaceted and dependent upon the general cultural atmosphere of the time so that although one can describe them for any single medium, one hesitates to generalize across media. Nonetheless, one thing is clear: as we saw in photography, this technological engagement is the primary support for an inquest devoted to distinguishing the new medium from all others.

The artist, working in the formative stage of a new medium, faces challenges different from those s/he might face while working in an established one. A new medium promises a blank slate, demanding to be written upon, holding out the tantalizing prospect that today's creation may be tomorrow's patrimony. Here, the artist is up against history in an uncommon way in that she gives an intense (if often ambivalent) retrospective look to establish both continuities and discontinuities between earlier artists' work and his/her own while attempting to predict the future of that medium and of art in general. A new medium permits the artist to conceptualize his/her art in the broadest possible terms. What s/he may give up in immediacy is more than repaid by the rewards of working with first principles. Creation and polemics are inseparable if only because each work or aesthetic dictum works towards the definition of a territory. Artists' statements are not typically inward-looking self-explanations, but the means to create contexts for the work. In its early stages, a medium is implicitly (and often explicitly) the subject of a work of art, and nearly all work possesses prominent, if sometimes indirect, elements of reflexivity. A new medium promises to sweep away many "small" aesthetic problems, and replace them with a few very large questions. A new medium promises renewal.

As no one can work in a totally open field, this appeal to technology for support is hardly surprising. While linked to modernist distillation, the functions served by the rationalization of technology are considerably broader and more complex. Unlike Greenbergian modernism, which is largely devoted to the creation of a practice, here the technology is turned equally to the creation of a context, an implicit expression of the aspiration that the context, once established, will provide a foundation for subsequent practice. Today, we see this tendency in the ceaseless exegesis of computers in all their aspects, art-related and otherwise. Similar tendencies were present in the formative stages of all technological media, although until the arrival of computers, none quite to the degree of video.

The conventional wisdom about new media holds that they take on the characteristics of the most similar preceding medium before establishing their aesthetic autonomy (what I call the "preceding proximate relation"). In this view photography initially mimics painting, electronic music mimics instrumental music, cinema mimics theater, and television mimics both radio and cinema. Video, one assumes, would partake of the qualities of television and film. While valid for those utilizations devoted to serving large and general audiences, this thesis hardly holds for fine arts uses of these media. When employed for mass consumption, a medium will always be adapted to serve prevailing use patterns: photography's initial impact was felt most strongly in the realms of portraiture and documentation, film was conceptualized in theatrical terms, and radio's earliest implementation was for point-to-point communication as wireless telephony. However, for new media artistically employed--particularly after photography--the preceding proximate relation has precisely the opposite dynamic: the first duty of those working in a new medium is to establish distinctions between the new and the most similar preceding medium, and indeed, from all other media. This attitude is inherent in the modernist enterprise, deriving both from the avant-gardist aspiration which pervaded artistic creation and from the distillation to essentials discussed above.

There is, however, one sense in which the preceding proximate relation might be said to hold in the fine arts, although not strictly in the conventional sense. Peter Galassi, in the catalog to his exhibition "Before Photography," in tracing developments in painting from the Renaissance to the 1830s, shows how the emergence of certain pictorial conventions appropriate to the dynamics of photography, such as composition by exclusion, seemed to presage the new medium. In Galassi's view, the emergence of photography is due to its suitability to these existing pictorial conventions.¹ If we employ Galassi's thesis as a model, we might say that it is not that new media take on the characteristics of the most similar antecedent medium, but that a new medium emerges when antecedent media begin to function in a way appropriate to the new medium. Even applied to photography, Galassi's thesis remains controversial; additional investigation is required to determine the validity of its application to other media.

However, Galassi's formulation appears applicable to video in at least two aspects. The emergence of video occurred at a time when the basic technical capabilities of the medium were, to put it mildly, less than fully "articulate:" the image was low resolution and high noise, editing equipment and color cameras were largely unavailable, and even first generation recordings were substantially degraded from the original. The medium was not particularly supple because

controls over image and sound were few and generally crude. Video as it existed prior to about 1976 was not a medium sensitive to subtle variations in the visual texture, nor in precise temporal manipulation, and many artists sought out strategies to bypass the medium's limitations. One solution was to ground works in reductive, conceptual or performance-oriented strategies, such as in the work of Acconci, Nauman and Graham where issues of visual texture were not strongly operative. To the degree that these works partake of certain attributes of conceptual and performance art of the period, it may be that although the primitive state of video might not have been able to sustain artistic use in certain other aesthetic milieux, it could find legitimation by correspondence with these recognized practices. Also, in a larger and non-pictorial sense, the advent of video occurred at a time of intense structural investigation in all the media. It is entirely possible that the enormous and, in historical terms, unprecedented explosion of video is the product of an aesthetic environment entirely suitable to the sorts of reflexive inquiries prompted by the need to define an otherwise unformed medium.

So, many video artists confronted the two fundamental modernist issues: how to define the medium itself and how to distinguish it from all others. For those who engaged these issues, there were effectively two general and non-mutually exclusive strategies for this project:

The intensive: The art of video was to be defined by the medium's unique technological structure and capabilities, an ontology of the video image and mechanism.

The extensive: The art of video was to be defined by its extensions, by its implications to concerns outside itself, and the manner in which it could incorporate "real world" concerns. This is by no means simply about program content; these extended elements were fundamental to the formulation of the new medium's context and formal structure. While various artists brought a range of concerns to the medium, the key relation was to ecology, broadly defined, which permitted further extensions to other areas, including physics, phenomenology, cybernetics, bio-telemetry, sociology, and communications and information theory.

The former strategy served to ground the work in microcosm, the latter in macrocosm. Both served to provide a foundation for work that otherwise existed in a context devoid of established convention and to furnish a set of mutually understood concerns which could be used to anchor the artist's inquest and his/her communication with the audience. Similarly, both served to forestall basic issues usually seen as lying at the heart of artistic practice (style, personal expression, narrative shape, etc.), by relocating the works' central concerns to areas which could be formulated independently of and largely outside conventionalized aesthetics. In a large sense, technology grounded aesthetics in the medium's early years.

The Intensive Strategy: This classically modernist approach of defining the medium by its unique material structure and capabilities was reflected in the works and words of many individuals, including those of Vasulka, DeWitt and Beck. This strategy was powerfully reductive, and much effort was expended in attempting to define the base material of video, its import and ramifications. Video feedback, the image which results when a camera is pointed at a monitor displaying that camera's output, was seen as the paradigmatic material, the "cave fire" as Vasulka put it. The direct result of the system's internal functioning, empty of denotative content and cut off from all things external, feedback was seen as the medium's purest exercise. It is a

remarkably fluid and seductive phenomenon--it seems to possess a life of its own--and videomakers spent many hours in normal and altered states of consciousness working with feedback as unitary material and in combination with other video effects. With a similar objective, much work was done to systematize relationships between electronic images and sound, technically and aesthetically. Aided by the common technical structure of video and audio synthesizers, artists employed many strategies, including using the video signal to generate or modify the audio, using the audio signal to generate or modify the video, or finding various "equivalents" between them.

Such reductiveness was also aided by the architecture of many video image processing devices, which were themselves structured atomistically. Because these tools were directed to the control of technological "primitives," that is, basic electronic processes which could be combined by patch cords or other means to build effects, the artists were working close to the electronic structure of the medium. As we saw with DeWitt and Beck, some artists sought to lay the foundations for a "language of video" by determining compositional elements, another quest strongly reminiscent of the constructivist program. Efforts went to systematizing and categorizing image elements so that their combination and interaction might furnish a comprehensive compositional framework not unlike that which exists for music. For Beck, as previously noted, this reductiveness had another aspect: as he was both an artist and an instrument designer, it became the basis for the design of both the electronic modules themselves and the control interface. Specialized tools could only be based on a well-rationalized theory of the moving, abstract image.

The works of Woody Vasulka, particularly those from 1973 onward, made alone and in collaboration with his wife Steina, are almost entirely devoted to first principles. As noted above, Vasulka was not much concerned with expressive modalities; rather, his work sought to define the base materiality of video without regard to the formulation of expressive or denotative convention. The tapes from this period, often with such didactic titles as *The Matter*, *Vocabulary*, and *Explanation*, are demonstrations of technological primitives, such as the limits of the frame, inherent waveform dynamics, and space-energy relations. One gets the impression that the audio, which is often directly linked to one or another image element, is so employed because it is inherent to the system itself, not in an effort to find sound-image equivalents. These tapes give the appearance of being autonomous "machine" creations, functioning in a world separate from that of human experience.

These reductive tendencies were hardly confined to synthesized work. It is intriguing to compare Michael Snow's video installation *De La* (1971), with its film counterpart, *La Région Centrale* (1971). In the film, the camera, mounted on a specially constructed mechanism atop a snow-covered mountain, is swept through all possible views in an exploration of space. The resulting work is the continuous registration of that exploration interrupted only by unavoidable breaks to change magazines. This custom-built machine, although finished to a sculptural aspect, functions only as an agent, and is unseen except fleetingly as shadow. *De La* employs the same mechanism installed in an art gallery, now holding a video camera whose output appears on four large monitors in the gallery's corners. What is interesting is that in the transposition to video the original dynamic of the film is precisely reversed. Whereas the film looks out to space, the installation is reflexive to the act of registering the scene. As Snow noted,

De La precisely has to do with seeing the machine make what you see. . . . Contrary to the film, it doesn't have anything to do with affecting a sense of fictional gravity. . . . It is a kind of dialogue about perception.

In comparing La R gion Centrale with De La, the differences in working method between an established and a new medium become apparent. Clearly De La's real-time registration displaces in an integral way the "mystery" which surrounds the film's production, in that La R gion Centrale conceals its means so as to concentrate on the film's subject, raw natural space, while the video installation's primary dynamic is dependent upon the accessibility of its agency. In a strong sense, concealing the film's means is analogous to the material characteristics of the medium: the latent film image is invisible until processed, printed and projected, while in the video installation, latency is displaced by the dynamics of real-time registration. Whereas the film exists as a fixed text, Snow's "fictional gravity," the video installation functions as an autonomous perceptual system: the registering apparatus is at work regardless of the presence of the viewer so that s/he is less a spectator than a witness to an autonomous perceptual act. But there is a peculiar duality here, because while the perceptual act itself is autonomous, the viewer is also the registered, so that when viewers are present, the making and the viewing are conjoined and the work can be said to exist only at the moment of its realization. It is this web of self-referentiality, the videomaking as its own subject, which is a particular hallmark of this and other new media. Why did Snow choose to reveal in video what he conceals in film? Because the unformed state of the medium invited an encounter with the medium's base elements.

Because of the abstractive nature of these reductive exercises, many videomakers gave aesthetic definition to their works--what we might call "legibility"--through collaboration with established media, particularly music and dance. The established medium serves as an aesthetic anchor for the new medium while the new medium is seen to enlarge the established medium's expressive repertory. There is an implicit promise that by means of this collaboration, the established medium might transcend its "received" formal limitations, and thereby be re-invigorated. Historically, intermedia experimentation seems to appear whenever aesthetics are in some sort of upheaval and avant-garde resurgence. We see this in the Soviet Union in the 1920s, in Germany in the 1930s, and in the United States in the 1960s.

The Extensive Strategy: In video's case, other elements rendered both the drive for self-definition and the relation to the preceding proximate more complex than in other media, while permitting certain utilizations of the medium to bypass modernist reduction. Because video was not so much an entirely new technology as a new set of applications for the technology underlying broadcast television, the task was not simply to distinguish video from other art media, but to distinguish it also from TV. The dynamics of this relation are manifold and had wide-ranging ramifications. In the activist context of the time, the act of distinguishing video as a medium was, for many videomakers, strongly linked to change, political, cultural and social, often with utopian overtones. As Deirdre Boyle observed, on the whole the early videomakers, particularly those associated with the guerrilla TV movement, did not much directly engage the organs of power, such as the military, the government, the police, preferring instead to concentrate their energies on the reform of television, the idea being that if you reform this most central of cultural institutions, you will perforce reform society.¹ Or, in the words of Frank Gillette,

The revolution in America is not going to result from the clash of political ideologies; it's going to result from the saturation of information and the modes of information dissemination being entirely different, and at that point you'll have the American Revolution; and the only violence will be done to its own history, or its own sense of history. . . . Paik is the George Washington of the movement . . .



Video was immediately invested with a powerful aspiration which shaped its subsequent history: if television is central to society, so too is video. This centrality and the resulting sense of extension are the most distinctive aspects of early video: the new medium became the substructure for the exploration of an enormous range of concerns and political imperatives. The reaction against broadcast television was not, of course, against television per se; rather it was against the entire framework of cultural organization in which television plays a prominent role. Because questions of mass communication, social organization and political power were seen as inherent in any critique of the broadcast system, and because any critique of the broadcast system was inherently a critique of an even broader range of cultural and political issues, this need to distinguish video art from broadcast effectively relocated certain exercises of the new medium to the "real world," enlarging video's field of operation to areas outside the realm of art proper.

In a later stage of development, work involving political and social concerns might be classified as documentary or activist, embracing a set of aesthetics distinct to those disciplines, but such segmentation had not yet formed. All applications of the medium were seen as germane to art and no approach was excluded a priori. As Woody Vasulka remarked,

At first we looked at video as a singular discipline. We, as well as the others, used all expressions from abstract to documentary in an aesthetic unity, escaping genre division of other media. The portapack itself was a dominant tool for all.

And Paul Ryan:

during that period [1968-1971] there were no clearly defined factions of art versus social change. There were videomakers who thought of themselves as artists and saw their work as promulgating social change, and there were videomakers working for social change who considered their work artistic.

If the need to distinguish itself from television had moved video into an activist mode, and if the protoplasmic state of the medium blurred distinctions between art and activism, the central agent of this commingling of art and politics was video's immediate investment in the ecological movement. The early issues of *Radical Software* are interesting in part because so little space is devoted to art narrowly defined and so much to placing video within the ecological context. Even those figures who were working unambiguously within an art context, including Gillette and Paik, write mostly about non-art issues. It is significant that the editors' statement of the premiere issue--the definition of the journal's aims--is an ecological manifesto: in the midst of the counter-culture's overall rejection of technology, the video medium became the means to humanize

technology in general and to undermine and control what the statement called the "unseen systems shap[ing] our lives."¹ Because the questions were posed in such broad terms--ecological relations encompass absolutely everything--and because they located video at the center of an information ecology, every point at which video touched the real world became accessible to artists. Particularly as influenced by the writings of Gregory Bateson,² ecological issues were seen to incorporate matters of politics and social science, information theory, perception, cognition, and even psychology. It is this mechanism that made it possible for the video movement to assimilate such disparate elements as abstract synthesis and social documentary under the art-world umbrella. In that a work could be seen simultaneously as inherently reforming in an activist sense and inherently an exercise in aesthetics, it became possible for any utilization of video to be accepted as art. Similarly, by locating video in the middle of an impending "ecological catastrophe," early videomakers not only imparted a certain urgency to their activities, but also enabled almost any exercise of the medium to be implicitly a politically reformist or revolutionary act. And, if virtually anything one does with video is activist by the medium's very nature, then the burden of being explicitly activist is lifted from program content, freeing artists to experiment with content and formal structures outside the specific realm of agit prop. Video became, in the language of the period, a "tool for survival" without relinquishing its ties to art.

Frank Gillette's career is instructive because many of these tendencies are particularly visible in his work, and because his artistic development seems almost paradigmatic of the times. He was strongly influenced by both Marshall McLuhan and Bateson, and wrote extensively on video and its relationship to art, culture, and the environment. Gillette began his artistic career as a minimalist painter, creating large, "severe," monochromatic canvases. He attributes his interest in reconciling art and science to an aesthetic crisis he underwent in 1966.

I felt that what I was doing was coming closer and closer to contemplating my assumptions and closer and closer to a lunatic fringe. There were few people who understood the nuances of what I was doing. It had no ecological connectivity to the world. What the study of cybernetics did for me at that time was to make me give up painting to become involved with a medium I could relate to in a much broader spectrum.¹

Gillette had become dissatisfied with the modernist context in which he had been working. He began to read the works of the scientists Norbert Wiener, Warren McCulloch, John Lilly, Bateson and others in an attempt to reconcile their thought with the art he was then making.

I think what I am reacting against actively is the overt aestheticization of art. I mean the further and further and further removal of context within context. I am reacting directly to that. And my reaction is simply to re-embrace the world, to go right back to the source and concretize. I am also reacting against effete abstractionism. I think all serious art is empirical and we have devolved from that empiricism.²

As we have seen, for Gillette and others, video functioned as a way out of modernist reduction, as a vehicle to bypass hermetic issues and to expand their operative context. While Gillette did not entirely abandon the standard modernist formulation,³ it's significant that he always employed the term "television" to refer to his medium, never "video," unlike many others who

employed the latter term to distinguish certain art activities from mass communication. The use of the word "television" here indicates that he considered the relation to the society at large an essential element in the definition of the medium, so that the recognition of the larger framework is, for him, as much an irreducible element of video as any strictly material condition. By means of overlaying these two attitudes--the extensive and the intensive--Gillette and other videomakers were able to pass beyond what they perceived as reductive decadence without jettisoning other core elements of the modernist position: the interconnected beliefs in progress, the avant garde and the definition of the medium through its essential elements.

Gillette's passage through various styles is instructive. A founder of Raindance, he first involved himself with a kind of street or guerrilla video, in which he saw the medium as inherently democratizing. He spent three weeks interviewing people on the corner of Second Avenue and St. Marks Place, and considered this an exercise in television democracy: "people defining themselves, and not my going in and extracting information of which they're only an element."¹ Several similar projects followed, including working with "burnt out acid cases" in the Village. He let these teenagers use the cameras to tape themselves, which he described as "a means of expression as opposed to a means of recording their expression. . . . Videotape was a new, favorable means of feedback for them."² This was, to my knowledge, Gillette's first application of the feedback concept to a specific tape. In this case, the feedback was seen as essentially therapeutic: the act of self-expression, when viewed by the subjects themselves, might aid them in straightening out their lives.

In video, the ecological perspective and macrocosmic feedback (as distinguished from purely electronic feedback) were conceptually inseparable. A key concept in Norbert Wiener's cybernetic theory, feedback describes the condition of a system's output being directed to its input so that the system becomes responsive to its own behavior. Like Wiener, Gillette and other videomakers did not hesitate to make a general principle of the cybernetic model, and located immediate applications for it in psychology, society, and nature. Video was seen as the perfect mechanism by which information about the behavior of an individual human being, social or natural system could be fed back to that individual/system. By this means, the feedback concept became central to their conceptualization of video art.

There is a context which sees man versus environment and there's another context which sees man, or any organism, as an aspect of the total environment, so that you're never you versus the environment, you're always the environment reorganizing. . . .

I have a notion that state-of-the-art technology somehow relates to what I do. It's a core around which I can organize my ideas. The emergence of the relationship between the culture you're in and the parameters that allow you expression are fed back through a technology. It's the state-of-the-art technology within a particular culture that gives shape to ideas. So you have a third variant at play all the time: technology.

Many other videomakers, including Paul Ryan, Dan Graham, Richard Serra, Joe Bodelai, Jackie Cassen, Nina Sobel, Peter Crown, Juan Downey, and Aldo Tambellini, and Acconci, in their various ways also took macrocosmic feedback as an important model. This feedback concept

also functioned as an important criterion for distinguishing video from broadcast television, which was considered to be inherently autocratic and insensible to external conditions.

Video was for these videomakers two-way and democratic: the information emitted from the system would be fed back and, through various agencies, alter the system. In another way then, video, as the necessary central mechanism, found additional justification for its own extensiveness. Anyone and anything which was in any way implicated in the action of the video system became part of the feedback loop, and therefore, part of the system itself. Video art, then, was not only able to refer to the "real world" (for lack of a better way to put it), but became part of the world without giving up its identity as an art work. Similarly, by employing the feedback model, these real world phenomena became part of a system--a complex of interacting and interdependent elements--which had at its center the video system itself.

More than a conceptual framework, feedback became an important formal model for individual art works. *Wipe Cycle*, Gillette's first major work, was made in collaboration with Ira Schneider for the 1969 exhibition "TV as a Creative Medium" at the Howard Wise Gallery in New York. This nine-monitor installation was a collage of live images, delayed images, live broadcast television and material pre-recorded by Gillette and Schneider (including tapes of their co-exhibitors setting up their works). By displaying live video of the spectators, the same image from eight seconds previous, and again 16 seconds previous, Gillette and Schneider attempted to render disjunctive the relationship of the individual to his/her environment, so as to make apparent time-space relationships normally taken for granted. The spectator was invited to play with the delay, i.e. to alter his/her behavior in relation to the behavior of the video system, and by so doing, to become part of it. By setting up a singular environmental situation, *Wipe Cycle* attempted to create a microcosm of a theorized larger environmental dynamic of what Gillette called "media ecology." And by switching images between the nine monitors in a kind of marquee pattern, *Wipe Cycle* posited the equality of all images, demonstrating "that you're as much a piece of information as tomorrow morning's headlines."¹

Similarly, the eight works comprising Gillette's 1973 exhibition at the Everson Museum in Syracuse were concerned on one or another level with positing an ecological continuity between video and natural systems. Here, Gillette excised all reference to television or popular culture. In the installation *Track/Trace*, fifteen monitors, arranged in a five-level pyramid (one monitor on top, two on the second row, three on the third row, etc.), received input from three video cameras in the gallery. The top monitor displayed the real-time camera signal, the second row showed the image from three seconds before, the third row from three seconds before that, and so on, so that at any one time the entire pyramid displayed a record of the last 12 seconds in the gallery. The three cameras alternated to provide different views of the gallery. *Track/Trace* is more refined than *Wipe Cycle* because it has eliminated all elements except those occurring in the present space and time. Nonetheless, the relationship to the spectator is identical: the audience is incorporated into the work as content.

"The viewer becomes the information, which he receives both in real time and in four layers of delayed time, so that he experiences 'self' at five different periods in time, simultaneously; and from three different points in space, sequentially."¹

Other works in the show, including *Subterranean Field* and *Terraquae*, established closed ecological systems surveilled by video cameras. In most cases, natural processes continued undisturbed for the exhibition's duration while the video images were displayed on monitor matrices within the galleries. For Gillette the video systems were not simply utilitarian observational mechanisms. Rather, they represented the artist's attempt to establish continuity between the natural and technological systems, and to posit the openness of these otherwise closed systems to include the audience's perception of the works. As he put it, "The audience's participation of both levels [i.e. direct and mediated] produces a third, or meta-level."² If the video seems superfluous to the natural processes and the linkage of the audience to the ecological stream is somewhat forced, it may be because Gillette formulated these works as a demonstration of video's ecological centrality. Rather than deriving from ecological or audience-participation dynamics, the video system was imposed in order to make the point that the medium is an essential element of the expanded ecological system.

Dan Graham's work of the period employed a similar feedback model, although displaced from the ecological to experiential and social issues. Using feedback structured by means of time delay, mirrored spaces, instructions to performers, spatial displacement and other devices, Graham established situations that were mediated by a video system "anomalizing" time and/or space so that an individual interacts with him/herself in this altered time/space, or groups of individuals interact with other groups of individuals in altered time/space, or both simultaneously. In nearly all his video work from 1969 through the mid-1970s, the feeding back of information is the common structuring element, and it is by violating the familiar conditions of direct experience that these relationships become raw material for the art work. He describes one strategy:

If a perceiver views his behaviour on a 5 to 8 second delay [the limit of short-term memory] via video tape (so that his responses are part of an influencing of his perception, "private" mental intention and external behaviour are experienced as one. The difference between intention and actual behaviour is fed back on the monitor and immediately influences the observer's future intentions and behaviour.

It is not surprising, therefore, that when Graham set forth to define the video medium and to distinguish it from film, he did so in terms of what he perceived as their divergent temporalities. In terms with which Michael Snow might well agree, Graham saw video as a "present-time" medium where the image is viewed at the moment of its formation, giving the appearance of "continuous, unbroken" temporality "congruent" to real-world time. He saw this as being precisely the opposite of film, which he called "an edited re-presentation of the past . . . for separate contemplation by unconnected individuals . . . discontinuous, its language constructed . . . from syntactical and temporal disjunctions (for example, montage)."² While there is a certain material foundation for this formulation, Graham is grounding his definition of video in functional aspects--how the medium might operate rather than in terms of its base materiality.

Paul Ryan, carrying this functional rationalization of the medium even further, sought not to anomalise time and space, nor to establish self-contained ecological systems, but rather to employ video as a tool for social activism, ecological analysis and personal introspection. In Ryan's eyes, the portapak was not simply a recording device, but "a complete cybernetic system .

. . a self-contained system for processing culture--family culture, classroom culture, therapeutic culture."3 That Ryan's work is characterized as video art at all is emblematic of the conditions surrounding early video in that it had little to do with activities traditionally included in the aesthetic realm, but because of the state of the medium and the nature of the times it found itself at home as much in the art world as anywhere else. His first major work, Everyman's Moebius Strip in the "TV as a Creative Medium" show, was a booth in which participants could tape themselves, view the tape and then erase it so that the encounter would remain private. For Ryan, "the inside is the outside . . . when you see yourself on tape, you are seeing your real self, your 'inside'."1 Ryan believed that video could be a valuable tool for understanding natural systems and he devoted a number of years taping the Hudson Valley in his Earthscore project, postulating that ecological relations could be made apparent by an examination of video images. One such work, the Earthscore Sketch, consisted of thirty-six continuous half-hour tapes of nature. Another work, a study of the main waterfall at High Falls, New York consisted of water flow patterns sequenced one after another without explicit syntactical relationship. At the same time, he attempted to establish a "triadic" community, that is, a community based on relationships between groups of three individuals. Taping hours of people interacting in groups of three, he employed video as a tool to aid in defining the rules of this community. Ryan's work always had an ambiguous relationship to art, as it seemed more to do with utopian philosophy or ecology than artistic practice. He was almost totally unconcerned with plastic values, and his work attempted to eliminate all formal artifice. For him, video was less an art medium than a relational archetype and an analytical tool. Nonetheless, his work was supported by the New York State Council on the Arts from 1971 to 1975.

Like the intensive model, the extensive model was a pathway to the definition of the medium. But whereas the intensive model sought the medium's definition in its inherent material conditions, the extensive model worked to postpone consideration of those issues. Artists working in these modes often sought to create structures in which work could go forward without being "hung up" on specifically aesthetic issues:

Questions of representation and portrayal are nearly totally absent, having been supplanted by issues of observation.

Metaphor is absent, having been supplanted by the representation of the "real."

There is an almost complete avoidance of the direct expression of subjective states. The evolution of personal style, as the issue might appear to a painter, was simply not part of the context. Stylistics, such as they were, were to be found in either the working method or the work's subject, or some combination of the two.

Most often, a statement of real-world dynamics served to justify the variables of any given art work: formal questions are thus displaced from the essentialist (i.e., the "pure" applications of the medium) to whatever is appropriate to a given work. Overall, issues of artistic intentionality are minimized, as are questions of quality. Here the demonstrative and explanatory aspects are deemed sufficient to carry the work. Unlike the intensive model, the concerns here are not about evolving a unique language of video; rather they are about finding ways of establishing links to the real world. This was accomplished in several ways:

The communications technology itself was seen as the key to mastering a whole set of social relationships: between the individual and society, between the individual and the environment, among groups of individuals, extending into the power relations within society itself.

Following from the preceding, the question of defining the medium was bound up with its use as a tool: for social change, for activism, for the exploration of ecological relationships, for the exploration of space and time.

The act of viewing a work was identified with observation, so that the established relationship of the spectator to the work becomes that of observer to observed phenomenon. Often the works are so structured as to include the observer within the realm of the observed (or self-observed) so that the work moves not only its own content to the real world, but also the spectator.

The video system itself was often seen as reflecting real-world system dynamics, presenting, in essence, a microcosmic ecology. In this manner, the video system could model macrocosmic ecological dynamics.

Process as foundation, structure and content, became the primary concern. In part this resulted from the sheer unresponsiveness of the tools and the lack of access to editing equipment; in part it resulted from an a priori relation to what constitutes appropriate "intervention" into the system's functioning; and in part it resulted from the lack of a model as to what constitutes an expressive video image. In general, the importance of the image is devalued while relatively greater importance is given to other aspects of the work, such as the viewing dynamics, durational aspects, and the work's overall structure. Often, the image is nothing more than the result of the chosen process. As noted above, this devaluation of the image was common to other art forms of the period.

These then were the conscious and unconscious strategies the first generation of video artists evolved in order to formulate their working methods. Around 1977 or 1978, however, conditions began to change. In the art world, the modernist position that informed many of the "intensive" works seemed increasingly irrelevant as connections between art and popular culture were growing ever more solid. There was a greater concern for expository convention, and certain forms, such as narrative fiction, which had been totally absent from early video, began to emerge. The medium moderated its oppositional relationship to mass culture in general and to broadcast television in particular: artists began to package their work as television programs.

Overall, the cultural landscape had greatly changed: the Vietnam War had ended and the counter-culture had long since enrolled in graduate school. Public and private funders, always crucial to the medium's development, began to shift their focus to encourage broadcast and mass distribution of video works, so that certain working methods became less viable within video's support system. There was a sense that the first stage of the medium's development had ended and that questions about the limits of the medium were less important than employing it to make specific statements. In Thomas S. Kuhn's terms, video had moved from the phase of paradigm formation to that of normal creation. However, the surprising and ironic aspect of this was that the foundations that had supposedly been laid during paradigm formation were not so much employed as assimilated. In video, the process of normalization manifested a narrowing of what

might be called "the canon of aesthetically valid operations." Tapes of modulated feedback or colorized and keyed dancers were hardly viable in the medium's sped-up aesthetic. While I don't wish to over-dramatize the rupture between the two stages, on the whole, ecological, cybernetic, philosophical, technological, political and other concerns which had provided the basis for the formal structures of many works tended now to be treated as content packaged within a more mainstream set of expository modalities, or were jettisoned entirely. Thus, at the same time that the art world was becoming more catholic in what it permitted as artistically valid, and while accessible technical capabilities were greatly expanding, video's field of formal activity was narrowing. Although I think it would be difficult to find a corresponding example in other new media--developing media usually expand their repertory of permissible modalities--this narrowing provides additional confirmation of the rear-guard relationship to modernism of much of early video work. Because video served singular cultural and aesthetic functions, the dynamics of its development were unlike those of any preceding medium.

This is only the first part of the first part of the story. We are now nearing the end of video's first historical phase: the thirty or so years from 1968 to the end of this century form the moment when video will have existed as a distinct and separate art. Soon to be subsumed by multi-media--the digitization and manipulation of sound and image on computers--video during these first thirty years will eventually be seen as a discrete and unitary phase, the precursor to the moving image in the digital domain. Once that happens, it will be time for a full consideration of the dynamics of its formation, for the analog age will be over and many of the issues which seem ambiguous to us today will stand out with considerable clarity. Only then will we know whether the first videomakers had set the foundations for an art form of lasting importance, or whether video art will have been only an interesting curiosity.

(I would like to acknowledge the contribution of two articles not otherwise credited. While we may not agree on all counts, Martha Rosler's "Video: Shedding the Utopian Moment" and Marita Sturken's "Paradox in the Evolution of an Art Form: Great Expectations and the Making of a History," both in Hall and Fifer's *Illuminating Video*, were important in suggesting the lines of inquiry taken in this article. The history of video is about to be written, and these superb articles are prescient in their grasp of the subject.)